REMARKS

Claims 1, 4, 5, 13, 16, 22, 23, 28, 32, 35, 36, 40, 43, 44, 46, 50, 51, 55, 60, 61, 65, 69, 70, 73, 76, 77, 91 and 97 are amended. Claims 3, 21, 34, 42, 49, 59, 68, and 75 are cancelled. Claims 1, 2, 4-20, 22-33, 35-41, 43-48, 50-58, 60-67, 69-74, 76-97 remain in the application for consideration. In view of the following remarks, Applicant respectfully requests withdrawal of the rejections.

Provisional Double Patenting Rejection

Claims 1-97 stand provisionally rejected under the judicially created doctrine of obviousness-type double over claims 1-103 of co-pending Application No. 09/746,923 (Parupudi et al., U.S. Pat. App. Pub. 2002/0120370) and claims 1-48 of co-pending Application No. 09/746,924 (Parupudi et al., U.S. Pat. App. Pub. 2002/0122055). Applicant respectfully requests that the Office hold this rejection in abeyance until the indication of allowable subject matter.

§ 112 Rejection

Claim 28 stands rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Office points out that this claim recites the term "the resultant set", and argues that there is insufficient antecedent basis for this term in the claim. Applicant has amended claim 28 to address this issue. Applicant thanks the examiner for the examiner's attention to detail.

§§ 102 and 103 Rejections

Claims 1, 2, 6-20, 24-33, 37-41, 45-48, 52-58, 62-67, 71-74, 78-97, and 91-97 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,125,446 to Olarig et al. (hereafter "Olarig").

Claims 3-5, 21-23, 34-36, 42-44, 49-51, 59-61, 68-70, 75-77 88-90 stand rejected under U.S.C. §103(a) as being unpatentable over Olarig in view of U.S. Patent No. 6,104,344 to Wax et al. (hereinafter "Wax").

Before undertaking a discussion regarding the substance of the Office's rejections, the following discussion of Applicant's disclosure, and the references to Olarig and Wax is included in order to assist the Office in appreciating the patentable distinctions between these references and the claimed subject matter in this application.

Applicant's Disclosure

Aspects of Applicant's disclosure are directed to context-aware computing systems and methods. Devices and methods are provided that are context-aware (in one example—location-aware) in that they provide for the application and enforcement of various policies as a function of context. Specifically, in at least some embodiments, computing devices are able to automatically determine their context (in one example, their location) by utilizing ***one or more traversable hierarchical tree structures comprising individual nodes***. Each of these nodes is associated with a device context and each node is connected to at least one other node by a branch.

In at least some embodiments, an exemplary classification of nodes takes place on a physical level (e.g. physical locations such as political entities,

infrastructure entities and public places), as well as a non-physical level (e.g. military APOs). This hierarchical nodal structure is referred to as the Master World, and is a standardized view worldwide. Each node of the Master World has various attributes associated with it that assist in context-aware computing. The Master World is useful because it can be used to determine the relative location of a place anywhere in the world and at any definable granularity.

In at least some embodiments, Secondary Worlds represent a powerful computing mechanism whereby individual entities (such as businesses or organizations) ***can define their own particular worlds*** that need not necessarily conform to the Master World view of the world. That is, while the Master World is essentially a physical hierarchical representation of the world, Secondary Worlds can be physical ***or logical representations*** of each individual entity's world view. In the described embodiment, each Secondary World has at least one node that is linked with a node of the Master World. This gives the Secondary World a context or location in the Master World. Also, in some context applications, several secondary worlds may be accessed, each providing additional context specific pieces of location data. The nodes of the Secondary World may or may not have much context outside of the particular organization that defined the Secondary World, since a Secondary World could be made either public or private. Because there is a link into the Master World, the computing device is able to derive its context (location) within both worlds. This enables the computing device, and hence the user, to take advantage of goods and services that are associated with the Secondary World, as well as participate in location-dependent services that are consumable based upon the user's location in the Master World.

In at least some embodiments, once a given context is determined, a

collection of policies, ***potentially from multiple different policy sources***, can be evaluated to provide a resultant set of policies that apply to the given context. An enterprise policy can be considered as a collection of rules established by the enterprise and enforceable, relative to the enterprise's computing devices, to define various parameters of the computing environment. System administrators can now be given the opportunity to author and define a rich, robust, and flexible set of policies that can be applied in many and varying contexts. ***This constitutes a noteworthy departure from the relatively inflexible systems in the past that enabled policy definition based only upon user or device identity and/or perhaps the device's static location***. The resultant set of policies is then enforced, typically via the device's operating system. Policy enforcement can involve promulgating new settings or state to applications that are executing on or off the device. Advantageously, the devices and methodologies can adapt the resultant set of policies as the device's context changes so that the policies can be dynamically determined and enforced automatically as the device's context changes

The Olarig Reference

Olarig is directed to methods and systems for enabling or disabling automatic encryption engines/algorithms using satellite positioning data (such as Global Positioning Systems (GPS) or other non-GPS positioning systems like LORAN, Eagle-Eye, etc.) for country or locale verification and compliance with federal encryption export statutes. Specifically, a computer system receives satellite position data and its encryption function can be enabled or disabled based upon current location information. (See e.g. column 3, line 67 through column 4, line 18, column 5: lines 26 through 28, lines 37 through 41, lines 51 through 67,

column 5 line 47 through 50).

Olarig additionally instructs that if current location information is received from at least one worldwide positioning system, software executing on a device may determine, ***based upon received current location***, that certain programs should be shutdown.

Accordingly, Olarig's methods and systems change operational features of hardware and/or software based on what might be considered as flat location information that is received.

The Wax Reference

Wax is directed to a system and methods for determining a geographical location from a ***measured wireless signal signature***. Wax instructs that its systems and methods are applicable for generating calibration tables that are based on the measurement of ***wireless signal parameters and corresponding location information***.

Wax instructs that to determine a geographical location from a measured wireless signal signature, a calculation is made from the measured wireless signal signature to provide a multi-dimensional signature vector. Each component of the vector measures a degree of coincidence between the measured wireless signal signature and a calibrated signal signature stored in a calibration table.

Wax matches the signature vector with vectors in a set of multi-dimensional calibrated vectors and uses a procedure for searching a hierarchical tree structure. However, Wax's hierarchical tree and its use thereof is very different from the hierarchical tree disclosed in Applicant's disclosure. Specifically, Wax's hierarchical tree structure is associated with a ***finite set of***

calibrated locations: "a hierarchical tree structure is associated with the set of N calibrated locations, as illustrated in FIG. 3." (See column 7, lines 34 through 37). This tree structure is composed of a number of nodes, each (except for the top node) connected to one higher level node and each (except the bottom nodes) connected to a number of lower level nodes. A node at the second-lowest level contains the union of the points contained in the lower-level nodes connected to it. A similar relationship holds between other nodes in the tree. Thus, the highest node contains all N signature vectors in the calibration table, while the second-highest nodes contain subsets of these N vectors.

Using well-known data clustering methods, Wax instructs that ***each signature vector is assigned to one leaf node at the lowest level of the tree.*** Nodes that cannot contain the best match vector are eliminated (using a well known branch and bound algorithm which traverses the tree and eliminates nodes that cannot contain the best match). Within the remaining nodes, a search eliminates individual vectors that cannot be the best match vector and selects one or more vectors in the set of multi-dimensional calibrated vectors, where the matched vectors correspond to calibrated geographical locations.

Claims Rejected over Olarig under §§ 102 and 103

Claim 1 has been amended, and as amended recites a computing device comprising [added language appears in bold italics]:

- one or more processors;
- memory operably associated with the one or more processors;
- one or more applications loadable in the memory and executable on the one or more processors; and
- the one or more processors being configured to:
    - receive context information from externally of the device,

the context information pertaining to one or more current device contexts;

- automatically determine one or more current contexts from the context information ***using one or more hierarchical traversable tree structures, wherein the tree structures comprise individual nodes individual ones of which being associated with a context, wherein said one or more current contexts are determined by traversing at least one node on at least one of the tree structures, wherein individual nodes comprise an entity identification (EID) that is unique to the node, EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node***;
- locally evaluate a collection of policies in connection with the one or more current contexts to provide a resultant set of policies; and
- enforce the resultant set of policies on the one or more applications.

In making the rejection, the Office argues that Olarig anticipates the subject matter in the claim. Applicant respectfully submits that Olarig does not disclose or suggest the subject matter of this claim, as amended. Specifically, Olarig does not disclose or suggest a computing device comprising ***one or more hierarchical traversable tree structures on the device***.

In addition, Wax neither discloses nor suggests a hierarchical tree having nodes in which individual nodes comprise an entity identification (EID) that is unique to the node, with EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node. Support for this subject matter can be found in the application on page 18, line 23 through page 19, line 20.

As neither reference discloses or suggests this claim's subject matter, this claim is allowable.

Claims 2 and 4-12 depend from claim 1 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 1, are neither disclosed nor suggested in the references of record, either singly or in combination with one another. In addition, given the allowability of claim 1, the rejection of claims 4 and 5 over the combination with Wax is not seen to add anything of significance.

Claim 13 has been amended, and as amended recites a computing device comprising [added language appears in bold italics]:

- one or more processors;
- memory operably associated with the one or more processors;
- one or more applications loadable in the memory and executable on the one or more processors; and
- the one or more processors being configured to:
  - receive context information from externally of the device, the context information pertaining to a current device context ***and determine a current context using one or more hierarchical traversable tree structures on the device, wherein the tree structures comprise individual nodes each of which being associated with a device context, wherein said current context is determined by traversing at least one node on at least one of the tree structures, and wherein individual nodes comprise an entity identification (EID) that is unique to the node, EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node***; and
  - enforce a set of policies on the one or more applications, the set of policies pertaining to a current context that is associated with the context information.

In making the rejection, the Office argues that Olarig anticipates the subject matter in this claim. Applicant respectfully submits that Olarig does not disclose

or suggest the subject matter of this claim, as amended. As pointed out above, Olarig does not disclose or suggest a computing device comprising ***one or more hierarchical traversable tree structures on the device***. Accordingly, this claim is not anticipated by Orarig.

In addition, as pointed out above, Wax neither discloses nor suggests a hierarchical tree having nodes in which individual nodes comprise an entity identification (EID) that is unique to the node, with EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node. Support for this subject matter can be found in the application on page 18, line 23 through page 19, line 20.

As neither reference discloses or suggests this claim's subject matter, this claim is allowable.

Claims 14 and 15 depend from claim 13 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 13, are neither disclosed nor suggested in the references of record, either singly or in combination with one another.

Claim 16 has been amended, and as amended recites a method of operating a computing device comprising [added language appears in bold italics]:

- receiving context information from externally of a computing device, the context information pertaining to a current device context;
- automatically determining, with the computing device, a current context using the context information,
- ***wherein said act of automatically determining comprises:***

- ***providing one or more hierarchical traversable tree structures on the device, the tree structures comprising individual nodes each of which being associated with a device context, wherein individual nodes comprise an entity identification (EID) that is unique to the node, EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node; and***
- ***traversing at least one node on at least one of the tree structures to provide the current context;***

- evaluating a collection of policies in connection with the current context to provide a resultant set of policies; and
- enforcing the resultant set of policies on one or more applications that are executable by the computing device.

In making the rejection, the Office argues that Olarig anticipates the subject matter in this claim. Applicant respectfully submits that Olarig does not disclose or suggest the subject matter of this claim, as amended. Specifically, Olarig does not disclose or suggest a method of operating a computing device comprising automatically determining a current context by providing one or more hierarchical traversable tree structures on the device, where the tree structures comprise individual nodes having an entity identification (EID) that is unique to the node, and which serves as a basis by which attributes can be assigned to goods or services associated with an individual node

In addition, as pointed out above, Wax neither discloses nor suggests any such feature. Accordingly, this claim is allowable.

Claims 17-20 and 22-27 depend from claim 16 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 16, are neither disclosed nor suggested in the references of record, either singly or in combination with one another. In addition, given the allowability of claim 16, the

rejection of claims 22 and 23 over the combination with Wax is not seen to add anything of significance.

Claim 28 has been amended, and as amended recites a method of operating a computing device comprising [added language appears in bold italics]:

- receiving context information from externally of a computing device, the context information pertaining to a current device context;
- ***automatically determining, with the computing device, a current context using the context information***;
- ***wherein said act of automatically determining comprises:***
  - ***providing one or more hierarchical traversable tree structures on the device, the tree structures comprising individual nodes each of which being associated with a device context, wherein individual nodes comprise an entity identification (EID) that is unique to the node, EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node; and***
  - ***traversing at least one node on at least one of the tree structures to provide the current context; and***
- enforcing ***a set of policies, which are the result of a collection of policies in connection with the current device context,*** on one or more applications that are executable by the computing device, the resultant set of policies pertaining to a context that is associated with the context information that is received.

In making the rejection, the Office argues that Olarig anticipates the subject matter in the claim. Applicant respectfully submits that Olarig does not disclose or suggest the subject matter of this claim, as amended. Specifically, as pointed out above, Olarig does not disclose or suggest a method of operating a computing device comprising automatically determining a current context by providing one or more hierarchical traversable tree structures on the device.

In addition, as pointed out above, Wax neither discloses nor suggests a

hierarchical tree having nodes in which individual nodes comprise an entity identification (EID) that is unique to the node, with EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node. Support for this subject matter can be found in the application on page 18, line 23 through page 19, line 20.

As neither reference discloses or suggests this claim's subject matter, this claim is allowable.

Claims 29-31 depend from claim 28 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 28, are neither disclosed nor suggested in the references of record, either singly or in combination with one another.

Claim 32 has been amended, and as amended recites a computing device comprising [added language appears in bold italics]:

- one or more processors;
- memory operably associated with the one or more processors;
- one or more applications loadable in the memory and executable on the one or more processors; and
- the one or more processors being configured to:
    - receive context information from externally of the device, the context information pertaining to a current device context;
    - automatically determine a current context from the context information ***using one or more hierarchical traversable tree structures on the device, the tree structures comprising individual nodes each of which being associated with a device context, the device being configured to determine its current context by traversing at least one node on at least one of the tree structures, wherein individual nodes comprise an entity identification (EID) that is unique to the node, EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual***

node;

- locally evaluate a collection of policies in connection with the current context to provide a resultant set of policies;
- enforce the resultant set of policies on the one or more applications;
- responsive to receiving context information that indicates a change of current context:
  - locally re-evaluate the collection of policies to provide a new resultant set of policies; and
  - enforce the new resultant set of policies on the one or more applications.

In making the rejection, the Office argues that Olarig anticipates the subject matter in the claim. Applicant respectfully submits that Olarig does not disclose or suggest the subject matter of this claim, as amended. As pointed out above, Olarig does not disclose or suggest a computing device comprising ***one or more hierarchical traversable tree structures on the device***.

In addition, as pointed out above, Wax neither discloses nor suggests a hierarchical tree having nodes in which individual nodes comprise an entity identification (EID) that is unique to the node, with EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node. Support for this subject matter can be found in the application on page 18, line 23 through page 19, line 20.

As neither reference discloses or suggests this claim's subject matter, this claim is allowable.

Claims 33 and 35-39 depend from claim 32 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 32 are neither disclosed nor suggested in the references of record, either singly or in

combination with one another. In addition, given the allowability of claim 32, the rejection of claims 35 and 36 over the combination with Wax is not seen to add anything of significance.

Claim 40 has been amended, and as amended recites a method of operating a computing device comprising [added language appears in bold italics]:

- wirelessly receiving context information from externally of a computing device, the context information pertaining to a current device context;
- automatically determining, with the computing device, a current context using the context information;
- ***wherein said act of automatically determining comprises:***
  - ***providing one or more hierarchical traversable tree structures on the device, the tree structures comprising individual nodes each of which being associated with a device context, wherein individual nodes comprise an entity identification (EID) that is unique to the node, EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node; and***
  - ***traversing at least one node on at least one of the tree structures to provide the current context;***
- locally evaluating, with the computing device, a collection of policies in connection with the current context to provide a resultant set of policies;
- enforcing the resultant set of policies on one or more applications that are executable by the computing device;
- determining whether the device's current context has changed and if so, automatically determining a new current context using received context information;
- responsive to determining the new current context, locally re-evaluating, with the computing device, the collection of policies to provide a new resultant set of policies for the new current context; and
- enforcing the new resultant set of policies on the one or more applications.

In making the rejection, the Office argues that Olarig anticipates the subject

matter in the claim. Applicant respectfully submits that Olarig does not disclose or suggest the subject matter of this claim, as amended.

In addition, as pointed out above, Wax neither discloses nor suggests a hierarchical tree having nodes in which individual nodes comprise an entity identification (EID) that is unique to the node, with EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node. Support for this subject matter can be found in the application on page 18, line 23 through page 19, line 20.

As neither reference discloses or suggests this claim's subject matter, this claim is allowable.

Claims 41 and 43-45 depend from claim 40 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 40 are neither disclosed nor suggested in the references of record, either singly or in combination with one another. In addition, given the allowability of claim 40, the rejection of claims 43 and 44 over the combination with Wax is not seen to add anything of significance.

Claim 46 has been amended, and as amended recites a computing device comprising [added language appears in bold italics]:

- one or more processors;
- memory operably associated with the one or more processors;
- one or more applications loadable in the memory and executable on the one or more processors; and
- the one or more processors being configured to:
    - receive location information pertaining to a current device location;
    - automatically determine a current location from the location

information ***using one or more hierarchical traversable tree structures on the device, the tree structures comprising individual nodes each of which being associated with a device location, the device being configured to determine its current location by traversing at least one node on at least one of the tree structures, wherein individual nodes comprise an entity identification (EID) that is unique to the node, EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node***;

- locally evaluate a collection of policies in connection with the current location to provide a resultant set of policies; and
- enforce the resultant set of policies on the one or more applications.

In making the rejection, the Office argues that Olarig anticipates the subject matter in the claim. Applicant respectfully submits that Olarig does not disclose or suggest the subject matter of this claim, as amended.

In addition, as pointed out above, Wax neither discloses nor suggests a hierarchical tree having nodes in which individual nodes comprise an entity identification (EID) that is unique to the node, with EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node. Support for this subject matter can be found in the application on page 18, line 23 through page 19, line 20.

As neither reference discloses or suggests this claim's subject matter, this claim is allowable.

Claims 47, 48 and 50-54 depend from claim 46 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 46 are neither disclosed nor suggested in the references of record, either singly or in combination with one another. In addition, given the allowability of claim 46, the

rejection of claims 50 and 51 over the combination with Wax is not seen to add anything of significance.

Claim 55 has been amended, and as amended recites a method of operating a computing device comprising [added language appears in bold italics]:

- receiving location information pertaining to a current device location;
- automatically determining, with the computing device, a current location using the location information;
- ***wherein said act of automatically determining comprises:***
  - ***providing one or more hierarchical traversable tree structures on the device, the tree structures comprising individual nodes each of which being associated with a device location, wherein individual nodes comprise an entity identification (EID) that is unique to the node, EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node; and***
  - ***traversing at least one node on at least one of the tree structures to provide the current location;***
- locally evaluating, with the computing device, a collection of policies in connection with the current location to provide a resultant set of policies; and
- enforcing the resultant set of policies on one or more applications that are executable by the computing device.

In making the rejection, the Office argues that Olarig anticipates the subject matter in the claim. Applicant respectfully submits that Olarig does not disclose or suggest the subject matter of this claim, as amended.

In addition, as pointed out above, Wax neither discloses nor suggests a hierarchical tree having nodes in which individual nodes comprise an entity identification (EID) that is unique to the node, with EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node. Support for this subject matter can be found in the application on page 18,

line 23 through page 19, line 20.

As neither reference discloses or suggests this claim's subject matter, this claim is allowable.

Claims 56-58 and 60-64 depend from claim 55 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 55 are neither disclosed nor suggested in the references of record, either singly or in combination with one another. In addition, given the allowability of claim 55, the rejection of claims 60 and 61 over the combination with Wax is not seen to add anything of significance.

Claim 65 has been amended, and as amended recites a computing device comprising [added language appears in bold italics]:

- one or more processors;
- memory operably associated with the one or more processors;
- one or more applications loadable in the memory and executable on the one or more processors; and
- the one or more processors being configured to:
    - receive location information pertaining to a current device location;
    - automatically determine a current location from the location information ***using one or more hierarchical traversable tree structures on the device, the tree structures comprising individual nodes each of which being associated with a device location, the device being configured to determine its current location by traversing at least one node on at least one of the tree structures, wherein individual nodes comprise an entity identification (EID) that is unique to the node, EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node***;
    - locally evaluate a collection of policies in connection with the current location to provide a resultant set of policies;

- enforce the resultant set of policies on the one or more applications; and
- responsive to receiving location information that indicates a change of current location:
  - locally re-evaluate the collection of policies to provide a new resultant set of policies; and
  - enforce the new resultant set of policies on the one or more applications.

In making the rejection, the Office argues that Olarig anticipates the subject matter in the claim. Applicant respectfully submits that Olarig does not disclose or suggest the subject matter of this claim, as amended.

In addition, as pointed out above, Wax neither discloses nor suggests a hierarchical tree having nodes in which individual nodes comprise an entity identification (EID) that is unique to the node, with EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node. Support for this subject matter can be found in the application on page 18, line 23 through page 19, line 20.

As neither reference discloses or suggests this claim's subject matter, this claim is allowable.

Claims 66, 67 and 69-72 depend from claim 65 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 65 are neither disclosed nor suggested in the references of record, either singly or in combination with one another. In addition, given the allowability of claim 65, the rejection of claims 69 and 70 over the combination with Wax is not seen to add anything of significance.

Claim 73 has been amended, and as amended recites a method of operating a computing device comprising [added language appears in bold italics]:

- wirelessly receiving location information from externally of a computing device, the location information pertaining to a current device location;
- automatically determining, with the computing device, a current location using the location information;
- ***wherein said act of automatically determining comprises:***
  - ***providing one or more hierarchical traversable tree structures on the device, the tree structures comprising individual nodes each of which being associated with a device location, wherein individual nodes comprise an entity identification (EID) that is unique to the node, EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node; and***
  - ***traversing at least one node on at least one of the tree structures to provide the current location***;
- locally evaluating, with the computing device, a collection of policies in connection with the current location to provide a resultant set of policies;
- enforcing the resultant set of policies on one or more applications that are executable by the computing device;
- determining whether the device's current location has changed and if so, automatically determining a new current location using received location information;
- responsive to determining the new current location, locally re-evaluating, with the computing device, the collection of policies to provide a new resultant set of policies for the new current location; and
- enforcing the new resultant set of policies on the one or more applications.

In making the rejection, the Office argues that Olarig anticipates the subject matter in the claim. Applicant respectfully submits that Olarig does not disclose or suggest the subject matter of this claim, as amended.

In addition, as pointed out above, Wax neither discloses nor suggests a

hierarchical tree having nodes in which individual nodes comprise an entity identification (EID) that is unique to the node, with EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node. Support for this subject matter can be found in the application on page 18, line 23 through page 19, line 20.

As neither reference discloses or suggests this claim's subject matter, this claim is allowable.

Claims 74 and 76-78 depend from claim 73 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 73 are neither disclosed nor suggested in the references of record, either singly or in combination with one another. In addition, given the allowability of claim 73, the rejection of claims 76 and 77 over the combination with Wax is not seen to add anything of significance.

Claim 79 recites a computing device comprising:

- one or more processors;
- memory operably associated with the one or more processors;
- one or more applications loadable in the memory and executable on the one or more processors; and
- the one or more processors being configured to:
  - ***collect policies from multiple different policy sources to provide a collection of policies, the policies being expressed in terms of context dependencies associated with multiple different device contexts;***
  - receive context information from externally of the device, the context information pertaining to a current device context;
  - automatically determine a current context from the context information;
  - locally evaluate the collection of policies in connection with the current context to provide a resultant set of policies; and

- enforce the resultant set of policies on the one or more applications.

In making the rejection, the Office argues that Olarig anticipates the subject matter in the claim. Applicant respectfully submits that Olarig does not disclose or suggest the subject matter of this claim. Specifically, Olarig discloses methods and systems for changing operational features of hardware and/or software based upon current location information received from at least one worldwide positioning system (such as GPS or LORAN). Nowhere does Olarig disclose or suggest a computing device comprising processors configured to ***collect policies from multiple different policy sources to provide a collection of policies.*** Accordingly, this claim is allowable.

Claims 80 and 81 depend from claim 79 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 79, are neither disclosed nor suggested in the references of record, either singly or in combination with one another.

Claim 82 recites a method of operating a computing device comprising:

- ***collecting policies from multiple different policy sources to provide a collection of policies, the policies being expressed in terms of context dependencies associated with multiple different device contexts;***
- receiving context information from externally of a computing device, the context information pertaining to a current device context;
- automatically determining a current context from the context information;
- locally evaluating the collection of policies in connection with the current context to provide a resultant set of policies; and

- enforcing the resultant set of policies on the device.

In making the rejection, the Office argues that Olarig anticipates the subject matter in the claim. Applicant submits that Olarig does not disclose or suggest the subject matter of this claim. As noted above, Olarig does not disclose or suggest a method of operating computing device comprising ***collecting policies from multiple different policy sources to provide a collection of policies***. Accordingly, this claim is allowable.

Claims 83-87 depend from claim 82 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 82, are neither disclosed nor suggested in the references of record, either singly or in combination with one another.

Claim 88 recites a method of providing policies for enforcement on computing devices comprising:

- providing a representation of location using ***multiple*** hierarchical tree structures each of which comprising multiple nodes***, each node representing a location that can be either a physical location or a logical location***, the tree structures comprising at least one link between them that can serve as a basis for a traversal operation that traverses the multiple tree structures to derive a computing device location; and
- expressing multiple policies as a function of the representation of location.

In making out the rejection of this claim, the Office argues that Olarig discloses the use of GPS for determining current context of a device, but does not disclose determining the current context by traversing a hierarchical tree structure

providing an abstract representation of context. Applicant agrees.

The Office then relies on Wax and argues that it discloses a method for determining geographical location for a wireless device by searching a hierarchical tree structure where each node of the tree is associated with a particular context/location. Based on this, the Office concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Olarig and Wax to provide a system of enforcing policies on a device based on a device location determination, the determination made by traversing a hierarchical tree structure providing an abstract representation of context. The Office further argues that Wax provides motivation for using hierarchical trees to determine geographical location because it discloses a more efficient method of determining geographical location of a wireless device.

Applicant disagrees with the Office's obviousness rejections and respectfully submits that neither Wax nor Olarig disclose using multiple hierarchical tree structures each of which comprising multiple nodes, each node representing a ***location that can be either a physical location or a logical location.*** Specifically, Wax does not disclose a hierarchical tree having a node that can represent a physical or logical location. Rather, Wax's nodes are associated with a ***finite set of calibrated physical locations***: "a hierarchical tree structure is associated with the set of N calibrated locations, as illustrated in FIG. 3." (See column 7, lines 34 through 37). Nowhere does Wax disclose or suggest nodes that represent logical locations.

Accordingly, the Office has not established a *prima facie* case of obviousness and this claim is allowable.

Claim 89 depends from claim 88 and is allowable as depending from an

allowable base claim. This claim is also allowable for its own recited features which, in combination with those recited in claim 88 are neither disclosed nor suggested in the references of record, either singly or in combination with one another. In addition, given the allowability of claim 88, the rejection of claim 89 over the combination with Wax is not seen to add anything of significance.

Claim 90 recites a method of providing policies for enforcement on computing devices comprising:

- expressing multiple policies as a function of an abstract representation of location that uses ***multiple*** hierarchical tree structures each of which comprising multiple nodes, ***each node representing a location that can be either a physical location or a logical location,*** the tree structures comprising at least one link between them that can serve as a basis for a traversal operation that traverses the multiple tree structures to derive a computing device location; and
- making the multiple policies available to computing devices.

In making out the rejection of this claim, the Office concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Olarig and Wax to to render the subject matter of this claim obvious. Applicant disagrees with the Office's obviousness rejections.

As pointed out above, neither reference discloses or suggests using ***multiple*** hierarchical tree structures with each tree structure comprising multiple nodes, each node representing a location that can be either a physical location ***or a logical location.*** Accordingly, the Office has not established a *prima facie* case of obviousness and this claim is allowable.

Claim 91 has been amended, and as amended recites a computer

architecture comprising [added language appears in bold italics]:

- a context service that provides context information or context change events that pertain to the context of a computing device;
- ***wherein said context service determines context using one or more hierarchical traversable tree structures, the tree structures comprising individual nodes each of which being associated with a device context, the context service being configured to determine context by traversing at least one node on at least one of the tree structures, wherein individual nodes comprise an entity identification (EID) that is unique to the node, EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node; and***
- a policy engine communicatively linked with the context service and configured to:
    - receive context information or context change events from the context service;
    - evaluate a collection of policies to provide a resultant set of policies responsive to the context information or context change events; and
    - enforce the resultant set of policies on a computing device.

In making out the rejection of this claim, the Office argues that Olarig anticipates the subject matter in the claim. Applicant respectfully submits that Olarig does not disclose or suggest the subject matter of this claim, as amended. As pointed out above, Olarig does not disclose or suggest a computer architecture comprising a context service having ***one or more hierarchical traversable tree structures***.

In addition, as pointed out above, Wax neither discloses nor suggests a hierarchical tree having nodes in which individual nodes comprise an entity identification (EID) that is unique to the node, with EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node. Support for this subject matter can be found in the application on page 18,

line 23 through page 19, line 20.

As neither reference discloses or suggests this claim's subject matter, this claim is allowable.

Claims 92-96 depend from claim 91 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 91, are neither disclosed nor suggested in the references of record, either singly or in combination with one another.

Claim 97 has been amended, and as amended recites a computer system comprising [added language appears in bold italics]:

- a context service that provides context information or context change events that pertain to the context of a computing device;
- ***wherein said context service determines context using one or more hierarchical traversable tree structures, the tree structures comprising individual nodes each of which being associated with a device context, the context service being configured to determine context by traversing at least one node on at least one of the tree structures, wherein individual nodes comprise an entity identification (EID) that is unique to the node, EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node; and***
- a policy engine communicatively linked with the context service, but remote from the computing device, and configured to:
    - receive context information or context change events from the context service;
    - evaluate a collection of policies to provide a resultant set of policies responsive to the context information or context change events; and
    - provide the resultant set of policies to the computing device.

In making out the rejection of this claim, the Office argues that Olarig anticipates the subject matter in the claim. Applicant respectfully submits that

Olarig does not disclose or suggest the subject matter of this claim, as amended. As pointed out above, Olarig does not disclose or suggest a computer architecture comprising a context service having ***one or more hierarchical traversable tree structures***.

In addition, as pointed out above, Wax neither discloses nor suggests a hierarchical tree having nodes in which individual nodes comprise an entity identification (EID) that is unique to the node, with EIDs serving as a basis by which attributes can be assigned to goods or services associated with an individual node. Support for this subject matter can be found in the application on page 18, line 23 through page 19, line 20.

As neither reference discloses or suggests this claim's subject matter, this claim is allowable.

Conclusion

All of the claims are in condition for allowance. Applicant respectfully requests a Notice of Allowability be issued forthwith. If the Office's next anticipated action is to be anything other than issuance of a Notice of Allowability, Applicant respectfully requests a telephone call for the purpose of scheduling an interview.

Respectfully Submitted,

Dated: 9/29/04

By: _____

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